## **EAST Search History**

## **EAST Search History (Prior Art)**

Ref#	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	593	(Hung near4 Dang).xa.	US-PGPUB; USPAT	OR	ON	2008/06/17 15:50
S2	20	S1 and (downhol or borehole or wellbore)	US-PGPUB; USPAT	OR	ON	2008/06/17 15:51
S3	5	S2 and reflect\$4	US-PGPUB; USPAT	OR	ON	2008/06/17 15:51
S4	1	(("3906434") or ("2003015319")).PN.	US-PGPUB; USPAT	OR	OFF	2008/06/17 16:20
<b>S</b> 5	1	("3906434").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/17 18:12
S6	1	S5 and reflect\$4	US-PGPUB; USPAT	OR	ON	2008/06/17 18:12
S7	2362	(downhole or borehole or wellbore) and (acoustic\$4) and (reflect\$4) and (amplitude or phase)	US-PGPUB; USPAT	OR	ON	2008/06/17 18:22
S8	2362	(downhole or borehole or wellbore) and (acoustic\$4) and (reflect\$4) and (amplitude or phase)	US-PGPUB; USPAT	OR	ON	2008/06/18 13:52
S9	205	(340/854.3,853.4).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/06/18 13:52
S10	39	S8 and S9	US-PGPUB; USPAT	OR	ON	2008/06/18 13:52
S11	35	S10 and (liquid or fluid)	US-PGPUB; USPAT	OR	ON	2008/06/18 13:53
S12	9	S11 and reflector	US-PGPUB; USPAT	OR	ON	2008/06/18 13:54
S13	1	("7138929").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/18 14:13
S14	1	S13 and reflect\$4	US-PGPUB; USPAT	OR	ON	2008/06/18 14:13
S15	1	"4590593".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:14
S16	1	"4733233".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:14
S17	1	"4878206".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:15
S18	1	"5146433".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:15

S19	1	"5459697".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:16
S20	1	"5535177".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:16
S21	1	"5583827".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:16
S22	1	"5969638".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:17
\$23	1	"6097310".PN.	USPAT; USOCR	OR	ON	2008/06/18 14:17
S24	563	(downhole or borehole or wellbore) and (acoustic\$4) and (reflector) and (amplitude or phase)	US-PGPUB; USPAT	OR	ON	2008/06/18 14:19
<b>S</b> 25	189	S24 and (liquid or fluild)	US-PGPUB; USPAT	OR	ON	2008/06/18 14:19
S26	569	(367/81-83).COLS.	US-PGPUB; USPAT	OR	OFF	2008/06/18 14:21
S27	9	S25 and S26	US-PGPUB; USPAT	OR	ON	2008/06/18 14:21
S28	1	("6757218").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/18 15:38
S29	1	S28 and wave	US-PGPUB; USPAT	OR	ON	2008/06/18 15:38
S30	0	S28 and carrier	US-PGPUB; USPAT	OR	ON	2008/06/18 15:38
S31	1	S28 and sensor	US-PGPUB; USPAT	OR	ON	2008/06/18 15:43
S32	0	S28 and transducer	US-PGPUB; USPAT	OR	ON	2008/06/18 15:43
S33	0	S28 and modulat\$4	US-PGPUB; USPAT	OR	ON	2008/06/18 15:44
S34	1	("6757218").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/18 16:14
S35	1	S34 and reflect\$4	US-PGPUB; USPAT	OR	ON	2008/06/18 16:14
S36	1	"3900827".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:14
S37	1	"4273212".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:14
S38	1	"4535429".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:15
S39	1	"4715022".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:15
S40	1	"5119344".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:15

S41	1	"5495237".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:15
S42	1	"5615172".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:15
S43	1	"6094986".PN.	USPAT; USOCR	OR	ON	2008/06/18 16:16
S44	1	S28 and phase	US-PGPUB; USPAT	OR	ON	2008/06/18 16:20
S45	1	S44 and amplitude	US-PGPUB; USPAT	OR	ON	2008/06/18 16:20
S46	0	S28 and (reflect\$4 with property)	US-PGPUB; USPAT	OR	ON	2008/06/18 16:28
S47	1	S28 and property	US-PGPUB; USPAT	OR	ON	2008/06/18 17:27
S48	0	S28 and viscosity	US-PGPUB; USPAT	OR	ON	2008/06/18 17:47
S49	1	("6757218").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/19 12:05
S50	1	S49 and energy	US-PGPUB; USPAT	OR	ON	2008/06/19 12:05
S51	2	"6757218"	US-PGPUB; USPAT	OR	ON	2008/06/19 13:38
S52	1	("6757218").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/19 13:39
S53	1	S52 and phase	US-PGPUB; USPAT	OR	ON	2008/06/19 13:39
S54	1	S53 and amplitude	US-PGPUB; USPAT	OR	ON	2008/06/19 13:39
S55	1	S52 and phase	US-PGPUB; USPAT	OR	ON	2008/06/19 14:02
S56	1	("6757218").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/19 18:20
S57	1	S56 and resonat\$4	US-PGPUB; USPAT	OR	ON	2008/06/19 18:21
S58	2365	(downhole or borehole or wellbore) and (acoustic\$4) and (reflect\$4) and (amplitude or phase)	US-PGPUB; USPAT	OR	ON	2008/06/20 18:44
S59	205	(340/854.3,853.4).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/06/20 18:44
S60	39	S58 and S59	US-PGPUB; USPAT	OR	ON	2008/06/20 18:44
S61	17	S60 and (acoustic\$4 with energy)	US-PGPUB; USPAT	OR	ON	2008/06/20 18:44
S62	1	S61 and piezoelectric\$4	US-PGPUB; USPAT	OR	ON	2008/06/20 18:45

S63	205	(340/854.3,853.4).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/06/20 18:45
S64	32	S63 and piezoelectric\$4	US-PGPUB; USPAT	OR	ON	2008/06/20 18:45
S65	28	S64 and acoustic\$4	US-PGPUB; USPAT	OR	ON	2008/06/20 18:46
S66	20	S65 and energy	US-PGPUB; USPAT	OR	ON	2008/06/20 18:46
S67	205	(340/854.3,853.4).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/06/21 15:24
S68	32	S67 and piezoelectric\$4	US-PGPUB; USPAT	OR	ON	2008/06/21 15:24
S69	28	S68 and acoustic\$4	US-PGPUB; USPAT	OR	ON	2008/06/21 15:24
S70	20	S69 and energy	US-PGPUB; USPAT	OR	ON	2008/06/21 15:24
S71	5	S70 and (piezoelectric\$4 with actuat\$4)	US-PGPUB; USPAT	OR	ON	2008/06/21 15:24
S72	19	(borehole or wellbore or downhole) and (piezoelectric\$4 adj actuator) and acoustic\$4	US-PGPUB; USPAT	OR	ON	2008/06/21 15:29
S73	1	("6757218").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/21 16:55
S74	1	S73 and frequency	US-PGPUB; USPAT	OR	ON	2008/06/21 16:56
S75	235	(downhole or borehole or wellbore) and (acoustic\$4 with energy) and (different adj frequencies)	US-PGPUB; USPAT	OR	ON	2008/06/21 17:10
S76	5	S67 and S75	US-PGPUB; USPAT	OR	ON	2008/06/21 17:10
S77	131200	"340"/\$.ccls. "367"/\$.ccls.	US-PGPUB; USPAT	OR	ON	2008/06/21 17:22
S78	117	S75 and S77	US-PGPUB; USPAT	OR	ON	2008/06/21 17:26
S79	18	S78 and (frequency with simultaneously)	US-PGPUB; USPAT	OR	ON	2008/06/21 17:26
S80	8	(energy with capacitor) and ((electro\$2acoustic with transducer) same conver \$5) and (acoustic\$4 same (electrical\$4 with energy))	US-PGPUB; USPAT	OR	ON	2008/06/21 17:55
S81	2	S80 and (downhole or wellbore or borehole)	US-PGPUB; USPAT	OR	ON	2008/06/21 17:56

S82	24	(energy with capacitor) and ((electro\$2acoustic with transducer) and conver\$5) and (acoustic\$4 and (electrical\$4 with energy))	US-PGPUB; USPAT	OR	ON	2008/06/21 17:58
S83	5	S82 and (downhole or wellbore or borehole)	US-PGPUB; USPAT	OR	ON	2008/06/21 17:58
S84	400	(energy with capacitor) and ((electric\$4 and acoustic\$4 with transducer) and conver \$5) and (acoustic\$4 and (electrical\$4 with energy))	US-PGPUB; USPAT	OR	ON	2008/06/21 18:09
S85	12	S84 and (downhole or borehole or wellbore)	US-PGPUB; USPAT	OR	ON	2008/06/21 18:09
S86	1	("5444324").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/21 18:29
S87	1	S86 and (conver\$5)	US-PGPUB; USPAT	OR	ON	2008/06/21 18:29
S88	0	S87 and capacitor	US-PGPUB; USPAT	OR	ON	2008/06/21 18:30
S89	1	("6757218").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/23 00:18
S90	1	S89 and frequency	US-PGPUB; USPAT	OR	ON	2008/06/23 00:18
S91	1	("5444324").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/23 00:18
S92	1	S91 and frequency	US-PGPUB; USPAT	OR	ON	2008/06/23 00:18
S93	15	(downhole or borehole or wellbore) and (acoustic with energy) and (frequency with select\$4 with optimal\$4)	US-PGPUB; USPAT	OR	ON	2008/06/23 00:19
S94	197	(operation\$4 adj duty) and ((sensor or monitor) with device)	US-PGPUB; USPAT	OR	ON	2008/06/23 01:08
S95	3	S94 and (fault with diagnosis)	US-PGPUB; USPAT	OR	ON	2008/06/23 01:08
S96	1	("6940403").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/23 01:29
S97	1	("20020126005").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/23 09:38
S98	1	S97 and fault	US-PGPUB; USPAT	OR	ON	2008/06/23 09:38
S99	0	S97 and diagnosis	US-PGPUB; USPAT	OR	ON	2008/06/23 09:40
S100	1	("6940403").PN.	US-PGPUB; USPAT	OR	OFF	2008/06/23 09:41

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